

## MODELING HARRIS CURRENT SHEETS WITH THEMIS OBSERVATIONS

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Current sheets are ubiquitous in nature, occurring in such varied locations as the solar atmosphere, the heliosphere, and the Earth's magnetosphere. The simplest current sheet is the one-dimensional Harris neutral sheet, with the lobe field strength and scale-height the only free parameters. Despite its simplicity, confirmation of the Harris sheet as a reasonable description of the Earth's current sheet has remained elusive. In early 2009 the orbits of the 5 THEMIS probes fortuitously aligned such that profiles of the Earth's current sheet could be modeled in a time dependent manner. For the few hours of alignment we have calculated the time history of the current sheet parameters (scale height and current) in the near-Earth region, during both quiet and active times. For one particular substorm, we further demonstrate good quantitative agreement with the diversion of cross tail current inferred from the Harris modeling with the ionospheric current inferred from ground magnetometer data.